

Protecting Your Property from Earthquakes

Gas and Water Lines

Are You At Risk?

If you aren't sure whether your house is at risk from earthquakes, check with your local building official, city engineer, or planning and zoning administrator. They can tell you whether you are in an earthquake hazard area. Also, they usually can tell you how to protect yourself and your house and property from earthquakes.

What You Can Do

Earthquake protection can involve a variety of changes to your house and property -- changes that can vary in complexity and cost. You may be able to make some types of changes yourself. But complicated or large-scale changes and those that affect the structure of your house or its electrical wiring and plumbing should be carried out only by a professional contractor licensed to work in your state, county, or city. One example of earthquake protection is installing flexible connections on gas and water lines. This is something that only a licensed contractor should do.

Use Flexible Connections on Gas and Water Lines

Because most gas and water lines are rigid, they can be torn from their connection points during an earthquake. The results could include not only serious damage to your house but also injury to you and members of your family. A broken gas line is especially serious because of the potential for a fire or even an explosion.

One way to prevent broken gas and water lines is to have flexible connection pipes installed between appliances and their supply lines. The figure shows a flexible connection installed on a gas furnace. The same method can be used for other appliances, such as a hot water heater, clothes dryer, or stove. A licensed contractor can usually do this for you easily.

Tips

Keep these points in mind when you have flexible connections installed:

- Changes to the gas lines and plumbing in your house must be done by a licensed contractor, who will ensure that the work is done correctly and according to all applicable codes. This is important for your safety.
- A flexible connection will help protect against a small amount of movement but is not designed to function when the appliance it is connected to moves extensively or falls. So you should also consider anchoring the appliance to the floor or wall.

Estimated Cost

Having a flexible connection installed on a furnace or other large appliance will cost you about \$75.

Other Sources of Information

Seismic Retrofit Training for Building Contractors and Building Inspectors: Participant Handbook, FEMA, 1995

Reducing the Risks of Nonstructural Earthquake Damage: A Practical Guide, FEMA-74, 1994

Protecting Your Home and Business from Nonstructural Earthquake Damage, FEMA, 1994

To obtain copies of these and other FEMA documents, call FEMA Publications at 1-800-480-2520. Information is also available on the World Wide Web at <http://www.fema.gov>.

